Application No.: 10/526,906 Docket No.: 1155-0301PUS1

AMENDED CLAIM SET:

- 1. (currently amended) A carrier component suitable as an olefin polymerization catalyst, which is insoluble in a hydrocarbon solvent, is in the form of a solid fine particles having an average particle diameter of 3 to 80 μ m, and contains a magnesium atom, an aluminum atom and a C_{1-20} alkoxy group simultaneously, wherein the molar ratio of magnesium atom to aluminum atom (Mg/Al) is in the range of $\underline{40}$ to $\underline{150}$ $\underline{1.0}$ to $\underline{300}$, and the molar ratio of alkoxy group to aluminum atom (alkoxy group/Al) is in the range of $\underline{0.2}$ to $\underline{2.0}$ $\underline{0.05}$ to $\underline{2.0}$.
- 2. (original) The carrier component according to claim 1, wherein the molar ratio of magnesium atom to aluminum atom (Mg/Al) is in the range of 40 to 150, and the molar ratio of alkoxy group to aluminum atom (alkoxy group/Al) is in the range of 0.2 to 2.0.
- 3. (previously presented) The carrier component according to claim 1, which is obtained by contacting a magnesium halide with a C_{1-20} alcohol and then contacting the product with an organoaluminum compound represented by the general formula (Z):

$$AIR_nX_{3-n}$$
 (Z)

wherein R represents a C_{1-20} hydrocarbon group, X represents a halogen atom or a hydrogen atom, n is an integer of 1 to 3, and when there are a plurality of Rs, Rs may be the same or different, and when there are a plurality of Xs, Xs may be the same or different.

- 4. (withdrawn) An olefin polymerization catalyst comprising the carrier component described in claim 1.
 - 5. (withdrawn) An olefin polymerization catalyst comprising:
- (A) a transition metal compound from any one of groups 3 to 11 in the periodic table, having a ligand containing two or more atoms selected from a boron atom, a nitrogen atom, an oxygen atom, a phosphorous atom and a sulfur atom,

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(B) a carrier component suitable as an olefin polymerization catalyst, which is insoluble in a hydrocarbon solvent, is in the form of a solid fine particles having an average particle diameter of 3 to 80 μ m, and contains a magnesium atom, an aluminum atom and a C₁₋₂₀ alkoxy group simultaneously, wherein the molar ratio of magnesium atom to aluminum atom (Mg/Al) is in the range of 1.0 to 300, and the molar ratio of alkoxy group to aluminum atom (alkoxy group/Al) is in the range of 0.05 to 2.0, and

- (C) a specific organometallic compound, if necessary.
- 6. (withdrawn) The olefin polymerization catalyst according to claim 5, wherein the transition metal compound (A) is carried on the carrier component (B).
- 7. (withdrawn) A polyolefin having a bulk density of 0.20 (g/cm³) or more, which is obtained by homopolymerizing or copolymerizing an olefin in the presence of the olefin polymerization catalyst described in clam 4.
- 8. (withdrawn) The olefin polymerization catalyst according to claim 5, wherein the molar ratio of magnesium atom to aluminum atom (Mg/Al) is in the range of 40 to 150, and the molar ratio of alkoxy group to aluminum atom (alkoxy group/Al) is in the range of 0.2 to 2.0.
- 9. (withdrawn) The olefin polymerization catalyst according to claim 5, which is obtained by contacting a magnesium halide with a C_{1-20} alcohol and then contacting the product with an organoaluminum compound represented by the general formula (Z):

AlR_nX_{3-n} (Z) wherein R represents a C_{1-20} hydrocarbon group, X represents a halogen atom or a hydrogen atom, n is an integer of 1 to 3, and when there are a plurality of Rs, Rs may be the same or

different, and when there are a plurality of Xs, Xs may be the same or different.